

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application.

**Listing of Claims:**

- 1                   1. (Original) A method for treating or protecting an animal against a microbe-  
2 induced disease comprising the step of inhibiting DNA methyltransferase activity in said  
3 microbe.
- 1                   2. (Original) The method of claim 1 wherein said DNA methyltransferase is a  
2 DNA adenine methyl transferase.
- 1                   3. (Original) The method of claim 1 wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.
- 1                   4. (Original) The method of claim 1 wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.
- 1                   5. (Original) The method of claim 1 wherein said animal is a human patient.
- 1                   6. (Original) The method of claim 1 wherein said microbe is a bacterium.
- 1                   7. (Original) The method of claim 6 wherein said bacterium is a gram positive  
2 bacterium.
- 1                   8. (Original) The method of claim 7 wherein said gram positive bacterium is a  
2 bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species, *Corynebacterium*  
3 species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or *Streptomyces*  
4 species.
- 1                   9. (Original) The method of claim 6 wherein said bacterium is a gram negative  
2 bacterium.

1           10. (Original) The method of claim 9 wherein said gram negative bacterium is a  
2 bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella* species,  
3 *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species, *Yersinia*  
4 species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus* species,  
5 *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter* species, *Vibrio*  
6 species, or *Helicobacter* species.

1           11. (Original) The method of claim 6 wherein said bacterium is a bacterium of  
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;  
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*  
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*  
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*  
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*  
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;  
8 *Vibrio parahaemolyticus*; *Treponema pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;  
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;  
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1           12. (Original) A method of treating or protecting against a microbe-induced  
2 disease in a mammal afflicted with said disease, or at risk of becoming afflicted with said  
3 disease, comprising administering to said mammal a therapeutically effective dose of a methyl  
4 transferase inhibitor.

1           13. (Original) The method of claim 12 wherein said DNA methyltransferase is  
2 a DNA adenine methyl transferase.

1           14. (Original) The method of claim 12 wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.

1           15. (Original) The method of claim 12 wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.

1                   16. (Original) The method of claim 12 wherein said animal is a human patient.

1                   17. (Original) The method of claim 12 wherein said microbe is a bacterium.

1                   18. (Original) The method of claim 17 wherein said bacterium is a gram  
2 positive bacterium.

1                   19. (Original) The method of claim 18 wherein said gram positive bacterium is  
2 a bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species,  
3 *Corynebacterium* species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or  
4 *Streptomyces* species.

1                   20. (Original) The method of claim 17 wherein said bacterium is a gram  
2 negative bacterium.

1                   21. (Original) The method of claim 20 wherein said gram negative bacterium is  
2 a bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella*  
3 species, *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species,  
4 *Yersinia* species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus*  
5 species, *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter*  
6 species, *Vibrio* species, or *Helicobacter* species.

1                   22. (Original) The method of claim 17 wherein said bacterium is a bacterium of  
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;  
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*  
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*  
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*  
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*  
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;  
8 *Vibrio parahaemolyticus*; *Treponema pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;  
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;  
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1           **23.** (Original) A method of reducing bacterial virulence, comprising contacting  
2 bacteria with an agent that alters the bacteria's native level of DNA methyltransferase activity  
3 thereby inhibiting virulence of the bacteria.

1           **24.** (Original) The method of claim **23** wherein contacting bacteria with an  
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering  
3 the bacteria's native level of methylation of adenine in a polynucleotide of said bacteria.

1           **25.** (Original) The method of claim **23** wherein contacting bacteria with an  
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering  
3 the bacteria's native level of methylation of adenine in a GATC tetranucleotide of the bacteria.

1           **26.** (Original) The method of claim **23** wherein contacting bacteria with an  
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering  
3 the bacteria's native level of methylation of adenine in a GANTC pentanucleotide of the  
4 bacteria.

1           **27.** (Original) The method of claim **23** wherein the bacteria are pathogenic  
2 bacteria that cause disease in a mammal.

1           **28.** (Original) The method of claim **23** wherein the agent reduces the DNA  
2 methyltransferase activity.

1           **29.** (Original) The method of claim **28** wherein said agent reduces said activity  
2 by binding to a DNA methyltransferase enzyme.

1           **30.** (Original) The method of claim **23** wherein said DNA methyltransferase is a  
2 DNA adenine methyl transferase.

1           **31.** (Original) The method of claim **23** wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.

1           **32.** (Original) The method of claim **23** wherein said inhibiting DNA  
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.

1                   33. (Original) The method of claim 23 wherein said animal is a human patient.

1                   34. (Original) The method of claim 23 wherein said microbe is a bacterium.

1                   35. (Original) The method of claim 23 wherein said bacterium is a gram  
2 positive bacterium.

1                   36. (Original) The method of claim 23 wherein said gram positive bacterium is  
2 a bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species,  
3 *Corynebacterium* species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or  
4 *Streptomyces* species.

1                   37. (Original) The method of claim 23 wherein said bacterium is a gram  
2 negative bacterium.

1                   38. (Original) The method of claim 23 wherein said gram negative bacterium is  
2 a bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella*  
3 species, *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species,  
4 *Yersinia* species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus*  
5 species, *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter*  
6 species, *Vibrio* species, or *Helicobacter* species.

1                   39. (Original) The method of claim 23 wherein said bacterium is a bacterium of  
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;  
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*  
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*  
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*  
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*  
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;  
8 *Vibrio parahemolyticus*; *Trepomena pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;  
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;  
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1                   **40.** (Original) A method of reducing bacterial virulence, comprising: contacting  
2 bacteria with an agent that alters the bacteria's native level of DNA methyltransferase activity  
3 thereby altering the bacteria's native level of methylation of adenine in a GATC tetranucleotide  
4 of the bacteria, and thereby inhibiting virulence of the bacteria.

1                   **41.** (Original) A method of treating a microbe-induced condition in a mammal  
2 afflicted with said condition, comprising administering to said mammal a therapeutically  
3 effective dose of a composition comprising a methyl transferase inhibitor and a  
4 pharmacological excipient.

1                   **42.** (Original) The method of claim **41** wherein said condition is caused by  
2 *Agrobacterium* spp., *Rhizobium* spp. or *Helicobacter* spp.

1                   **43.** (Original) The method of claim **41** wherein said condition is caused by a  
2 member of the alpha subdivision of gram-negative bacteria.

1                   **44.** (Original) The method of claim **41** wherein said mammal is a human.